

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003160**Date Inspected:** 05-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Wu Ming Cai and Zhao Chen Sun			CWI Present:	Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A
Bridge No:	34-0006			Component:	OBG and SAS Tower Fabrication		

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 2: 114M Tower Mock-ups, Plate Cutting, Rolling

This QA observed machine beveling of 2-40mm thick plates marked P669 and P643 seen in progress. Cutting of 55mm thick plates with various sizes and shapes marked P1119, P356, P358, P547, P612, P662, P168, P7, P664 and P253 also seen in progress. Rolling machine and tower mock up 114M were both noted idle.

Bay 3: OBG side/bottom/edge panel

The QA Inspector randomly observed three ZPMC welder operators Lin Zhi Hong ID #062447 and Sun Ti Yu ID #054459 and Li Shu Liang ID # 048801 utilizing the Flux Cored Arc Welding (FCAW) Process in the 2F (Horizontal Fillet) Position with gantry mounted welding apparatus and a 1.4mm diameter electrode, filler metal brand Supercored 71H semi automatic to weld fillet between 6-WT(W21x57) rib stiffener to side panel SP177-001 weld joints 013/014, 017/018 and 009/010 using ZPMC Weld Procedure Specification (WPS) WPS-B-T-2123-3. QA Inspector Lizardo randomly observed ZPMC CWI Wu Ming Cai monitoring weld parameters.

Tack welding/fit-up of 7-open rib stiffener to side panel SP388-001-001~014, SP391-001-007~014 and SP393-001-001~010 using TL-508, 4.0mm electrode was noted. This QA observed, paint coating removed, tight

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fit for fillet weld and preheating implemented prior tack welding. Oxy-acetylene gas cutting of 35mm thick X 13597mm long plate for open rib stiffener of bottom plate BP305, BP306 and 22mm thick X 4575mm long for open rib stiffener side panel SP302 and SP199 was also observed.

Bay 4: Tower Diaphragm

This QA Inspector randomly observed two ZPMC welders Li Meng Qian ID #054460 and Shi Yan Hao ID #053605 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly ESD1-SA234 weld joint 7B and WSD1-SA-234 A/B weld joint 5A respectively. The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring weld parameters.

QA Inspector J. Lizardo randomly observed ZPMC qualified welder Mr. Han Xiaofeng ID #054467 groove welding SSD1-SA27 and SSD1-SA335 per welding repair report T-WR085 and T-WR084 respectively . Mr. Han was observed welding in the 1G (Flat) position utilizing a Shielded Metal Arc Welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand Excalibur 9018M-H4R. This QA Inspector observed the ZPMC QC CWI Inspector Zhao Chen Sun verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Zhao Chen Sun to be: preheat temperature of >180°C and welding parameters amps of 200, volts of 24. Welding parameters observed by QA Inspector appear to be in general compliance with the approved WPS-485-SMAW-1G(1F)-Repair 1.

Bay 7: OBG - Floor Beam Sub Assembly

QA Inspector J. Lizardo randomly observed ZPMC qualified welder Hong Shuili ID # 044815 groove welding CJP fill pass on stiffener end (200mm long)to web plate and fillet welding of stiffener to web plate on floor beam FB039-001 weld joint 064 and 051. Another welder Liu Kai Ge ID #044830 welding the same joint just mentioned on FB039-001 weld joint 071 and 129. Mr. Hong and Mr. Liu were observed welding in the 2G/2F (horizontal) position utilizing a flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic. QA inspector Lizardo observed the ZPMC QC CWI Inspector Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS).

SMAW tack welding was also noted on multiple stiffeners to web plate of floor beam FB030-001 and FB032-001 using 4.0mm diameter, THJ506Fe electrode. Drilling of 16-24mm diameter bolt holes on two sides of floor beam FB13A for diagonal brace connection and back gouging on CJP(3G) weld connection of stiffener plate to beam bottom flange FB003-035 weld joints 044, 032 and FB003-051 weld joints 044, 032, 020 and 008 this QA observed.

Bay 8: Tower Diaphragm

This QA Inspector randomly observed ZPMC welder Jiang Yong Sheng ID number 045240 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly SSD1-SA169 A/B-6A. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

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The QA Inspector randomly observed ZPMC welder Liu Yu Jun ID Number 202654, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-B-U2-F, to weld the fill pass on PJP corner joint between flange and web plate on longitudinal shear plate LD009-004-012. The QA Inspector randomly observed ZPMC CWI Hu We Qing.

Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Josecito	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer
